

6. SANFORD, N. (Ed.) Personality development during the college years. *J. soc. Issues*: 1956, **12**, No. 4.
7. STAGNER, R. A review of psychology of personality: Six modern approaches by J. J. McCorty. *Contemp. Psychol.*, 1957, **2**, 42-43.
8. WEBSTER, H. Some quantitative results. In H. Sanford (Ed.), Personality development during the college years. *J. soc. Issues*, 1956, **12**, 29-43.
9. WEBSTER, H. *Research manual for VC Attitude Inventory and VC Figure Preference Test*. Vassar College: Mary Conover Mellon Foundation, 1957.
10. WEBSTER, H. Correcting personality scales for response sets or suppression effects. *Psychol. Bull.*, 1958, **55**, 62-64.
11. WEBSTER, H. SANFORD, N., & FREEDMAN, M. A new instrument for measuring authoritarianism in personality. *J. Psychol.*, 1955, **40**, 73-84.

Received September 25, 1957.

INDIVIDUAL VERSUS GROUP GOAL CONFLICT^{1, 2, 3}

EWART E. SMITH

Fels Group Dynamics Center, University of Delaware

BOTH casual observation and research suggest that an important determiner of group efficiency and adaptiveness is how group members resolve conflicts between individual and group goals. Deutsch (3) has demonstrated the importance of cooperative behavior in effective groups. Mintz (4), using an ingenious group task that required cooperation for success, found that increasing individual motivation frequently decreased cooperation and therefore lowered efficiency. He theorizes that uncooperative behavior, being nonadaptive, does not occur in a group unless the cooperative pattern is broken by the uncooperative deviate. Once the cooperative pattern is disturbed, however, cooperation is no longer rewarding, and nonadaptive competition rapidly develops.

Mintz appears to postulate that the forces arising from the norms of internalized reference groups are sufficiently strong, in most individuals, to counteract individual, competitive motivations. The contention here, however, is that such internalized

group forces are not strong enough to counteract the strong individual goal forces that are aroused in many real situations, such as Mintz's example of the theatre fire; strong individual goal behavior can only be successfully opposed by immediate visible external group forces.

These considerations lead to the following hypotheses:

1. When faced with an alternative, persons will choose the attainment of their own goal in preference to that of a group goal less frequently in an overt situation, in which their choice is known by the group, than in a covert situation where their choice is secret.

2. When faced with an alternative, persons will choose the attainment of their own goal in preference to that of a group goal more frequently under increased individual motivation than under reduced individual motivation. The first hypothesis is consistent with the powerful effects of groups demonstrated in research on conformity, such as that by Asch (1). It is inconsistent, however, with Mintz's position, which implies that in a covert situation most individuals should be cooperative, as the infrequent uncooperative act would not be perceived by the group and the cooperative pattern should not, therefore, be disturbed. The second hypothesis appears to be self evident and is consistent with Mintz's data.

METHOD

Subjects

The subjects (Ss) were 120 male flying personnel, including 92 officers and 28 enlisted men, who were attending the Survival School at Stead Air Force Base. The six-man experimental groups were actual Air Force crews. Some crews had been together for many months; others consisted of men assigned to the same crew for their stay at the

¹ This report is based on work done under ARDC Project No. 7723, Task No. 77461, in support of the research and development program of the Air Force Personnel and Training Research Center, Lackland Air Force Base, Texas. Permission is granted for reproduction, translation, publication, use and disposal in whole or in part by or for the United States Government. The opinions or conclusions expressed or implied herein are those of the author. They are not to be construed as necessarily reflecting the views or endorsement of the Department of the Air Force or of the Air Research and Development Command.

² The writer is indebted to Carl W. Backman, Phil W. Buck, Willard F. Day, Robert McQueen, Edwin H. Richardson, Paul F. Secord, Walter A. S. Smith, E. Paul Torrance, and to Charles E. Hawkins, who served as experimenters and gave helpful criticisms and advice.

³ This study was conducted while the author was with the Survival Methods Branch, Air Force Personnel and Training Research Center, Stead Air Force Base.

Survival School. All crews had been living together for a minimum of five days.

Procedure

Two independent variables were used; the first was high individualistic motivation, induced by an evaluation set, versus low individualistic motivation. The second independent variable involved comparison of an overt situation, in which the group members knew when an *S* failed to sacrifice his solution to help the group, with a covert situation in which the group members did not know when an *S* failed to sacrifice. There were thus four conditions (with five six-man crews in each): (a) high individualistic motivation, overt; (b) high individualistic motivation, covert; (c) low individualistic motivation, overt; and (d) low individualistic motivation, covert. Ten experimenters were used.

The procedures, instructions, and apparatus⁴ were copied from Crutchfield's assessment technique, with minor modifications. The reader is referred to Crutchfield (2) for a detailed description. The *Ss* were seated in a circle with their backs to one another. Each *S* was to assemble a square with some geometric pieces. As the initial pieces held by each *S* did not form a square, the *Ss* had to request and exchange pieces by means of a tray carried around the group by the experimenter. The instructions indicated that it was easy for one or two people to form a square, but difficult for everyone to have a square simultaneously. The *Ss* were told that at the end of the allotted time (unspecified), if they each have a square, the group would receive 30 points (i.e., 5 points each). If they did not each have a square, those who did would each receive 5 points.

By manipulating the tray, the experimenter was able to control the situation. Each *S* passed through four identical rounds. In the first round he requested a needed piece; in the second, he received it and completed his square; in the third and fourth rounds he held his square unmodified since there was no request for a piece held by him. The stage was now set for the critical trials, where stress was placed upon each *S* by facing him with a request for a piece which was part of his completed square. These critical trials were continued until each *S* had given up the requested piece, or until there had been sixteen critical trials.

The basic instructions and procedures were varied in the four experimental conditions, in the following manner:

A. High individualistic motivation conditions (both overt and covert): The instructions stated

⁴ The only modification in the apparatus was the use of the word "request" on the underside of the request pieces.

that the experimenters had been asked to evaluate the intellectual aptitude of the *Ss* and would do so by means of a test. They were told that the results would be sent to their commanding officers, who would discuss the results with them.

B. Low individualistic motivation conditions (both overt and covert): The instructions stated that the task was an experimental one, not known to measure anything. The *Ss* were told that it would not be necessary to give their names.

C. Covert conditions (high individualistic motivation and low individualistic motivation): The following sentences were added to the basic instructions:

We have provided you each with a box to make sure that no one sees the solution to the problem by looking at all the pieces at once, or even just at those of a person to his side. However, since the boxes don't cover up the pieces entirely, you should look straight ahead and not to either side.

On any given presentation you may either simply pass, that is, by shaking your head indicate to the messenger that you neither want to exchange nor to request a piece, or both exchange and request.

D. Overt conditions (high individualistic motivation and low individualistic motivation): In these conditions, the basic instructions were modified as follows:

On any given presentation you may either simply say "Pass" indicating to the messenger that you neither want to exchange nor to request a piece, or you may exchange one piece or request one piece, or both exchange and request.

In addition, when the experimenter presented the tray on a critical trial he said, "Someone needs one of your pieces." If the *S* passed, the experimenter repeated after him, "You pass."

An *S*'s score was the trial on which he gave up the requested piece.

The Design in Summary

The procedure described was, in summary, intended to create the following psychological conditions:

High individualistic motivation. The individual was in danger of losing status, in his own mind and that of his commanding officer, because of failure on an intellectual task. At the same time, he was confronted with requests from others for help. To help the others would increase the possibility that the individual himself would fail.

Low individualistic motivation. There was little extrinsic motivation for attempting to do well. The results would be anonymous, and the task was not known to measure anything. However, we may assume some minimal motivation to do well. Again

TABLE 1
NUMBER OF SUBJECTS WHO SACRIFICED ON EACH
CRITICAL TRIAL IN FOUR EXPERIMENTAL
CONDITIONS

Critical Trials	High Individualistic Motivation Overt	Low Individualistic Motivation Overt	High Individualistic Motivation Covert	Low Individualistic Motivation Covert
1-4	20	25	2	4
5-8	2	1	2	6
9-12	0	1	2	4
13-16	0	0	2	4
Never Sacrificed	8	3	22	12

Note.— $N = 30$ in each condition.

TABLE 2
NUMBER OF SUBJECTS WHO SACRIFICED IN FOUR
EXPERIMENTAL CONDITIONS

	Overt	Covert	Totals
High individualistic motivation	22	8	30
Low individualistic motivation	27	18	45
Totals	49	26	

Note.— $N = 30$ in each condition.

the individuals were in conflict between their motivations to do well and their desire to help their associates.

Overt conditions. The individual knew that his decision, as to how he resolved his conflict, would be known by the group.

Covert conditions. The individual knew that the group would not know how he resolved his conflict. The covert situation was only relatively covert, however, as the experimenter obviously knew how the S resolved it. The S s appeared to feel under pressure from the experimenter to help their group as indicated in the S s who had not sacrificed by such behavior as ignoring the presence of the experimenter and the tray on subsequent critical trials, avoidance of eye contact with the experimenter, etc.

Observer reports and interviews with S s indicated that the experimental manipulations produced the desired psychological conditions.

RESULTS

The data in Table 1 indicate when the S s, in each condition, broke their squares, thus jeopardizing their individual solution to help their group and, in effect, temporarily giving up their own goals in favor of group goals. As the distributions are skewed, the data have been simplified to permit a chi square analysis (see Table 2.)

The chi square on the number of S s in all the

covert groups who broke their squares, compared to the number in all the overt groups, was 18.81, significant at the .01 level. These data support the first hypothesis.

The chi square on the number of S s breaking their squares in all high individualistic motivation groups, compared to the number in all low individualistic motivation groups, was 8.00, significant at the .01 level. These results appear to support the second hypothesis. However, inspection of the data indicates a possible interaction effect between the variables of overt-covert and individualistic motivation. Interaction was tested by comparing the S s in the high individualistic motivation-covert groups with the S s in the low individualistic motivation-covert groups. The resulting chi square was 6.79, significant at the .01 level. In addition, the high individualistic motivation-overt groups were compared with the low individualistic motivation-overt groups. The resulting chi square of 1.78, was not statistically significant. Apparently, then, there was a significant interaction effect between individualistic motivation and covert-overt conditions, with the variable of individualistic motivation being potent only in the covert groups.

An attempt was made to relate cohesiveness to the readiness of S s to jeopardize their own solutions to help their fellow group members. On the assumption that the longer crew members had been together the more cohesive they would be, the number of months each S had served with the other members of his crew was correlated with readiness to break his square. No significant relationship was found.⁵

An interesting *post hoc* finding⁶ is seen in Table 1, in the striking difference between the overt and covert conditions in the number of critical trials occurring before S s broke their squares. In the overt condition, all but one of the S s who broke did so in the first half of the 16 critical trials. In the covert conditions, 14 broke in the first half of the critical trials, and 12 in the last half. A chi square comparison of the overt and covert conditions on breaking in the first eight trials versus breaking in the last eight trials is 23.07, which is highly significant. These data suggest that in the overt conditions, those S s who refused to break their squares in the first few trials had made a public decision which was difficult to change without public ad-

⁵ Subsequently, data were collected on additional crews, using as a measure of cohesiveness the degree of their desire to remain in the same crew during the arduous survival trek phase of their training. Again there was no relationship between cohesiveness and willingness to sacrifice one's own goal for the group goal.

⁶ This analysis, and interpretation, was suggested to the writer by John T. Lanzetta.

mission of wrong-doing, whereas in the covert conditions their decisions were not public and presumably could be more easily changed. If this interpretation is correct, it serves to explain a striking phenomena observed by the experimenters. Members of the covert groups evidenced high tension by signs such as perspiring and avoidance behavior, whereas members of the overt groups were relatively calm. We may suppose that in the overt groups early decisions ended the conflict, while continued freedom to change prolonged the conflict in the covert groups, with resultant higher tension levels.

DISCUSSION

The relative lack of cooperative behavior observed in the covert groups, compared to the overt groups, is contrary to Mintz's (4) postulate that uncooperative group behavior is due to the perception by the group of an uncooperative act on the part of a deviant individual. The Ss in the covert groups did not know that some of the others were being uncooperative. In the overt groups, however, at least one member of each group was openly uncooperative on the first trial, yet most Ss soon cooperated with the group.

The ineffectiveness of individualistic motivation in the overt conditions is contrary to Mintz's (4) results. Mintz found, in what was in effect an overt situation, that the addition of small monetary rewards and punishments produced an increase in uncooperative, individual-oriented behavior. This inconsistency may be due to the lack of comparability of the laboratory and field conditions.⁷

In Mintz's research, causing others to fail could, at most, result in their paying a ten-cent fine, whereas in the present experiment, failure could have far reaching effects on the other crew members' military careers. In addition, Mintz's groups were ephemeral in contrast to the real crews used

⁷ Mintz (4) states that his conclusions are tentative until verified by field data.

here who would have to work and live together after the test.

The practical implications of this research are clear. When it is desirable that persons be socially rather than individually oriented, the wise course is to structure the situation so that most behavior is open to inspection by the group.

SUMMARY

An experiment was performed in which a conflict was produced between individual and group goal attainment. An overt situation was compared to a covert situation, and a high individualistic motivation condition with a low individualistic motivation condition. The hypotheses were:

1. When faced with an alternative, persons will choose the attainment of their own goal in preference to that of a group goal less frequently in an overt situation, in which their choice is known by the group, than in a covert situation where their choice is secret.

2. When faced with an alternative, persons will choose the attainment of their own goal in preference to that of a group goal more frequently under increased individualistic motivation than under reduced individualistic motivation.

The first hypothesis was supported. The second hypothesis was found to hold only in covert situations.

A *post hoc* finding that individuals apparently feel freer to change secret decisions than public decisions is discussed.

REFERENCES

1. ASCH, S. E. *Social psychology*. New York: Prentice-Hall, 1952.
2. CRUTCHFIELD, R. S. Assessment of persons through a quasi group interaction technique. *J. abnorm. soc. psychol.*, 1951, **46**, 577-588.
3. DEUTSCH, M. An experimental study of the effects of cooperation and competition upon group processes. *Hum. Relat.*, 1949, **2**, 199-231.
4. MINTZ, A. Non-adaptive group behavior. *J. abnorm. soc. psychol.*, 1951, **46**, 150-159.

Received September 30, 1957.

SEMANTIC ASPECTS OF PROGNOSIS¹

SPIRO B. MITSOS

Evansville State Hospital

THE measurement of meaning, though obviously important, is beset with difficulties (3). Jones and Thurstone (1) imply that these difficulties may result from failure to restrict the semantic context. They state:

¹ Part of this paper was read at the American Psychological Association meeting in 1957.

It is probably quite true that a word has no unique meaning or, more properly, that the meaning of a word depends upon the context in which it is presented. In the latter sense, a word has an infinite number of meanings each corresponding to a particular context. If such is the case, it is not possible to determine, either logically, or experimentally, the generalized meaning of a